

DOCUMENT RESUME

ED 261 727

JC 850 513

AUTHOR Woodley, Laurel
TITLE Gold Creek: An Environmental Studies Center.
INSTITUTION Los Angeles Community Coll. District, CA. Office of Instructional Services.
PUB DATE May 84
NOTE 25p.
PUB TYPE Reports - Descriptive (141)
EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Community Colleges; *Educational Facilities; *Environmental Education; *Field Experience Programs; *Natural Resources; *Outdoor Education; Trails; Two Year Colleges; Urban Environment

ABSTRACT

A description is provided of the Gold Creek Ecological Reserve, 240 acres of undisturbed land in Northeast Los Angeles County, which serves the Los Angeles Community College District (LACCD) as an outdoor laboratory for students and faculty in numerous disciplines. Section I provides introductory information on the reserve and its features, which include a natural stream, two archaeological sites, a geological fault, and abundant plant and animal life. Section II discusses the reserve's educational contributions, stressing the opportunity it offers for urban students to experience a more "natural" setting. In section III, various aspects of the students' experience at Gold Creek are explored, including information on seasonal changes, and field laboratory experiences and exercises. Section IV offers a description of one of the Gold Creek nature trails, which students can explore accompanied by a cassette tape description or trail guide. In section V, the impact of environmental factors (e.g., earthquakes, fires, and floods) on the reserve are discussed. Section VI offers statistics showing the use of the site over the past 7 years, during which approximately 6,370 students, 100 faculty members, and over 700 LACCD employees and their guests visited the reserve. The final sections explain the functions of the District's Gold Creek Committee, which is responsible for the development and use of the property to improve the LACCD's instructional programs, and plans for future improvements. (EJV)

* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *



LOS ANGELES COMMUNITY COLLEGE DISTRICT

617 West Seventh Street, Los Angeles, California 90017 (213) 628-7788

City • East • Harbor • Metropolitan • Mission • Pierce • Southwest • Trade-Technical • Valley • West

Division of
EDUCATIONAL SERVICES

GOLD CREEK: AN ENVIRONMENTAL STUDIES CENTER

PERMISSION TO REPRODUCE THIS
MATERIAL HAS BEEN GRANTED BY

L. Koltai

TO THE EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)

☐ This document has been reproduced as
received from the person or organization
originating it.

☒ Minor changes have been made to improve
reproduction quality.

• Points of view or opinions stated in this docu-
ment do not necessarily represent official NIE
position or policy.

MAY 1984

Office of Instructional Services

ED261727

JC 850 5/3

LOS ANGELES COMMUNITY COLLEGE DISTRICT

GOLD CREEK: AN ENVIRONMENTAL STUDIES CENTER

Laurel Woodley, Project Coordinator
Los Angeles Southwest College

May 1984

Board of Trustees

Marguerite Jackson Archie, President
Arthur Bronson, Vice President
Wallace Albertson
Lindsay Conner
Harold W. Garvin
Monroe F. Richman, M.D.
Rick Tuttle, Ph.D.
Judy Gomez, Student Member

District Administration

Dr. Leslie Koltai, Chancellor
Dr. Kenneth S. Washington, Vice Chancellor, Division of
Educational Services
Dr. Louis F. Hilleary, Senior Director, Office of
Instructional Services

CONTENTS

	Page
I. Introduction	1
II. Educational Contributions	3
III. The Student's Gold Creek Experience	4
IV. Highlights of a Gold Creek Nature Trail	7
V. Impact of Environmental Factors	13
VI. Site Utilization	17
VII. The Gold Creek Committee	18
VIII. Looking Toward the Future	19

I. INTRODUCTION

The Gold Creek Ecological Reserve is comprised of 240 acres of natural, undisturbed land located within Little Tujunga Canyon in the Northeast portion of Los Angeles County, surrounded by the Angeles National Forest. The property, formerly known as the Watts Ranch, was purchased in 1950 for \$60,000 by the Los Angeles Unified School District, and was subsequently transferred, in 1969, to the Los Angeles Community College District.

The Reserve, at an elevation ranging from 2,080 to 2,640 feet above sea level, includes a natural stream and varied examples of typical Southern California plant and animal life. Two archaeological sites, a geological fault, and the year-around running stream are among its more unique features. Wildlife abounds in Gold Creek due to the presence of abundant food and water.

Gold Creek serves LACCD students and faculty as an outdoor laboratory to supplement instructional programs in numerous disciplines including biology, botany, zoology, natural resource management, archaeology, geology, art and photography. Since 1970, the Los Angeles Community College District has maintained an instructional field station for environmental studies at the site. Publications developed for student use include a syllabus of field activities, and trail guides to Gold Creek's four nature trails.

Gold Creek is within reasonable traveling time from all nine college campuses (see Fig. 1).



FIGURE 1 GOLD CREEK LOCATION



II. EDUCATIONAL CONTRIBUTIONS

In an urban area such as Los Angeles, students come from a variety of social, cultural and ethnic backgrounds. Their experiences with a natural setting often are limited. California is a unique geographical area with many aspects of its flora, fauna, weather and geological history found in no other area of the world. Opportunities for students to study the California native landscape are rare and in many cases a visit to the Gold Creek Ecological Reserve is the only field experience a student will have in his or her collegiate career.

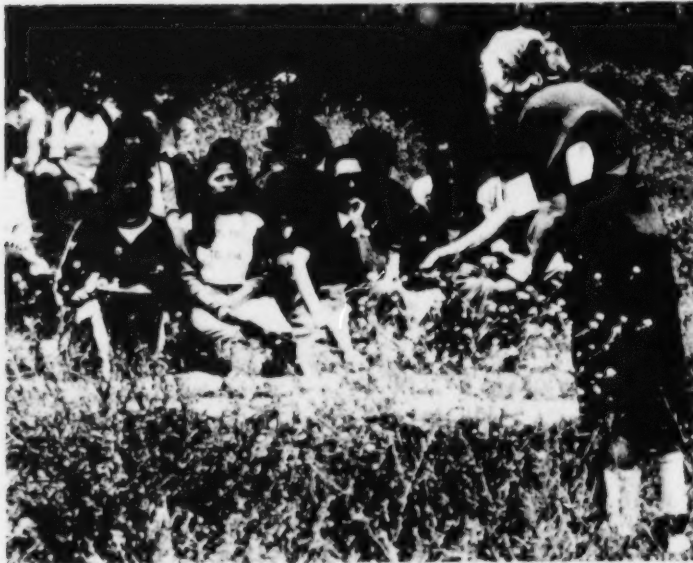
The Reserve meets the needs of both the general education student as well as the science major. It offers an opportunity to become familiar with one site in depth and throughout the four seasons. Techniques and scientific methodology studied in the classroom laboratory may be applied in the field, with some of the student projects leading later to more advanced studies. As District-owned property, Gold Creek provides a relatively unmolested site in which long-range experiments or observations may be conducted and specific study sites followed year after year. The mounting body of data gathered by both students and faculty provide for a clearer understanding of the dynamics of this particular segment of the Southern California scene.

Involvement with the Reserve serves to stimulate instructor interest and increases rapport with students. The Ecological Reserve is a catalyst increasing interchange among instructors from different campuses and outside professional experts brought to the site for workshops on specific topics of interest.

Finally, the Reserve is opened once each year to all District personnel during an Open House hosted by the Gold Creek Committee. Instructors, counselors, classified staff, administrators and their families participate in sharing the Gold Creek experience, taking their enthusiasm back to the campuses.

III. THE STUDENT'S GOLD CREEK EXPERIENCE

Most classes visiting Gold Creek for the first time take one of the nature trails after an orientation in the field laboratory or outdoor amphitheater. Students taking general education courses in the sciences will probably visit Gold Creek only once. For many, being in the mountains on a dirt trail surrounded by the fragrance of the chaparral and the sounds of nature is a totally new experience.



For some students in more advanced courses there will be many visits during the semester, making seasonal changes more apparent. A visit in February will reveal many annuals just emerging as a result of winter rains. By March the ceanothus covers the slopes with white flowers and the California Peony is in bloom. During April and May

there appears a succession of wildflowers in yellows, reds, whites and blues. In the first week of May colorful birds such as the red and yellow Western Tanager or the yellow and black Northern Oriole and Hooded Oriole make an appearance. The yuccas bloom in late May to June and the Yucca Moths emerge from the ground in response to some as yet undiscovered environmental or physiological stimulus.

Among the many objectives of the field laboratory experience are the

acquisition of data collecting skills and the use of field equipment. In one field exercise on environmental analysis the student learns how to use a rapid-read thermometer and sling psychrometer in comparing three different vegetation communities--the oak woodland, chaparral and riparian. While the student can feel that the air is cool and moist in the oak woodland and warm and dry in the chaparral, by using the psychrometer it is possible to determine a numerical value for the percent relative humidity.

Another field exercise involves sampling techniques along a transect to determine the distribution and frequency of soil animals. The distribution of aquatic insects as related to the amount of dissolved oxygen is made apparent by comparing stagnant pools with fast-flowing water. In this experience the student develops skills in the use of a dissolved oxygen test kit and in recognizing, by common name, aquatic insects both with and without gills.

For those students interested in water quality, a water test kit is available for coliform analysis. In one experiment the student compares water samples from stagnant, green pools with those from cascading, fast-flowing sites and discovers that the stagnant water is potable while the water from the main flow is infected with coliform or intestinal bacteria! Most students predict the reverse.



For experiments related to wind effects, there is a portable anemometer. A Brunton transit or compass is available for geology students interested in determining the strike and dip of the Saugus Formation. For long-term experiments, a hygrothermograph is used to record weekly, on a slowly turning drum, both relative humidity and temperature. For detecting changes in air pressure a recording barograph is available.

Some field exercises require identification of plants or animals through the use of keys. To supplement these activities there is an on-site herbarium collection for plant identification and a developing collection of insects, birds and mammals. A small library of field manuals is also available for on-site use. For mammal studies there are live traps used to determine both the abundance and diversity of small mammals in the area.

IV. HIGHLIGHTS OF A GOLD CREEK NATURE TRAIL

Centrally located on the Reserve is a field house containing equipment and supplies for use by students from nine District colleges. Radiating out from the nearby parking area are four nature trails which are instructor-designed and reflect contributions from biology, geology and anthropology (see Fig. 2). Each trail contains numbered stakes for which a narrative description is available in both written script and audio-cassette tape.

Students may check out a cassette player with tape or pick up a trail guide from the field laboratory and proceed down one of the numbered trails. Along the Green Trail (see Fig. 3) they will see and smell the native Black Sage--a near relative from which the name "sau sage" was derived. A little further along stands a mature Coast Live Oak,



Bill Krauss with students

the dominant element in the Oak Woodland Community. In November, 1975, this oak was among hundreds that were charred in the Tujunga fire. Students are able to observe and appreciate fire recovery from sprouting trunks and branches. Located on some of the smaller branches are apple-sized, woody galls formed by the larvae of a tiny wasp.

Along the first stretch of the trail are weedy plants common to disturbed soils, the most evident of which is Horehound. This plant was widely used during the turn of the century for making a bitter candy used as a remedy for sore throat.

FIGURE 2
GOLD CREEK ECOLOGICAL RESERVE

TRAIL MAP

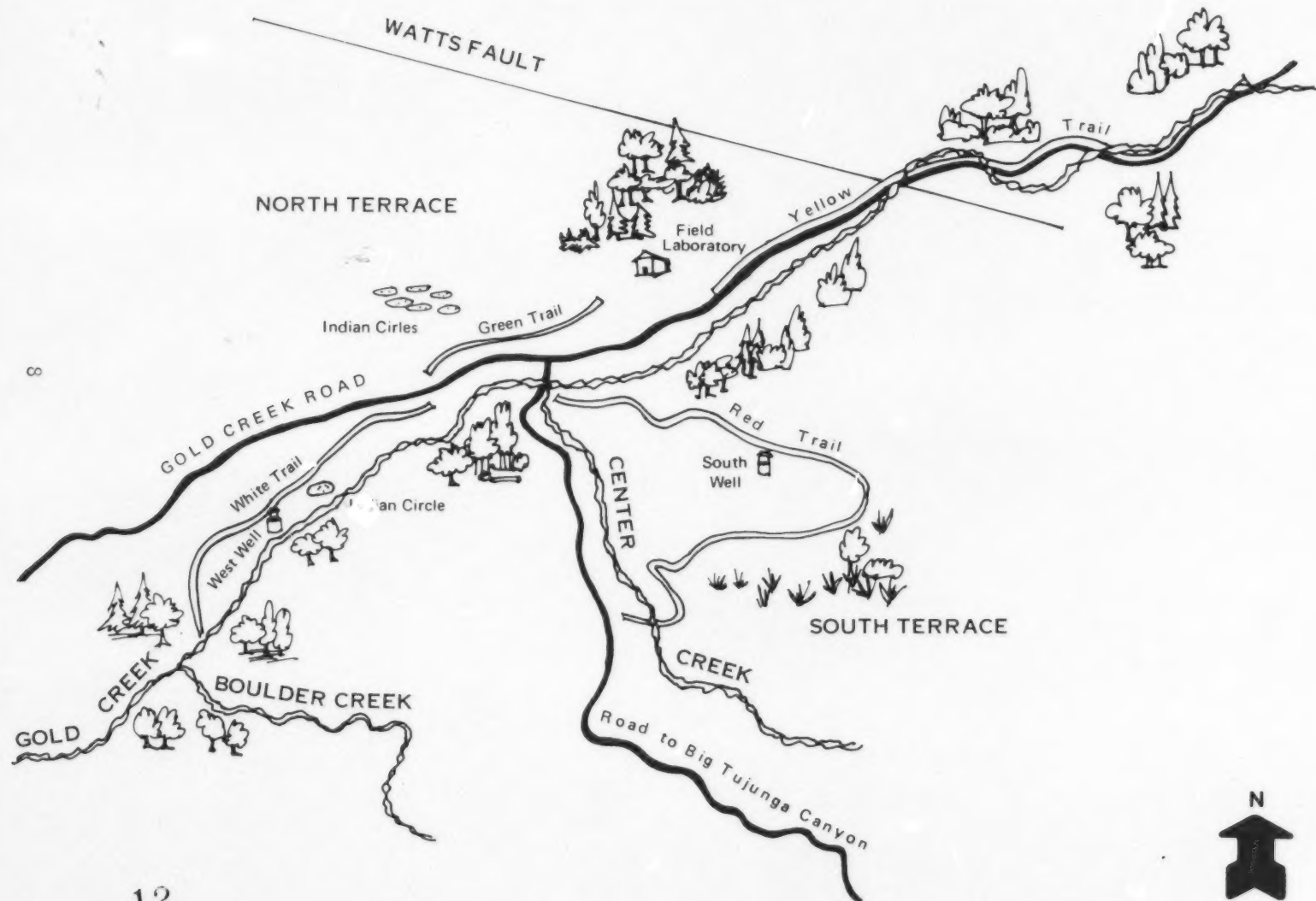
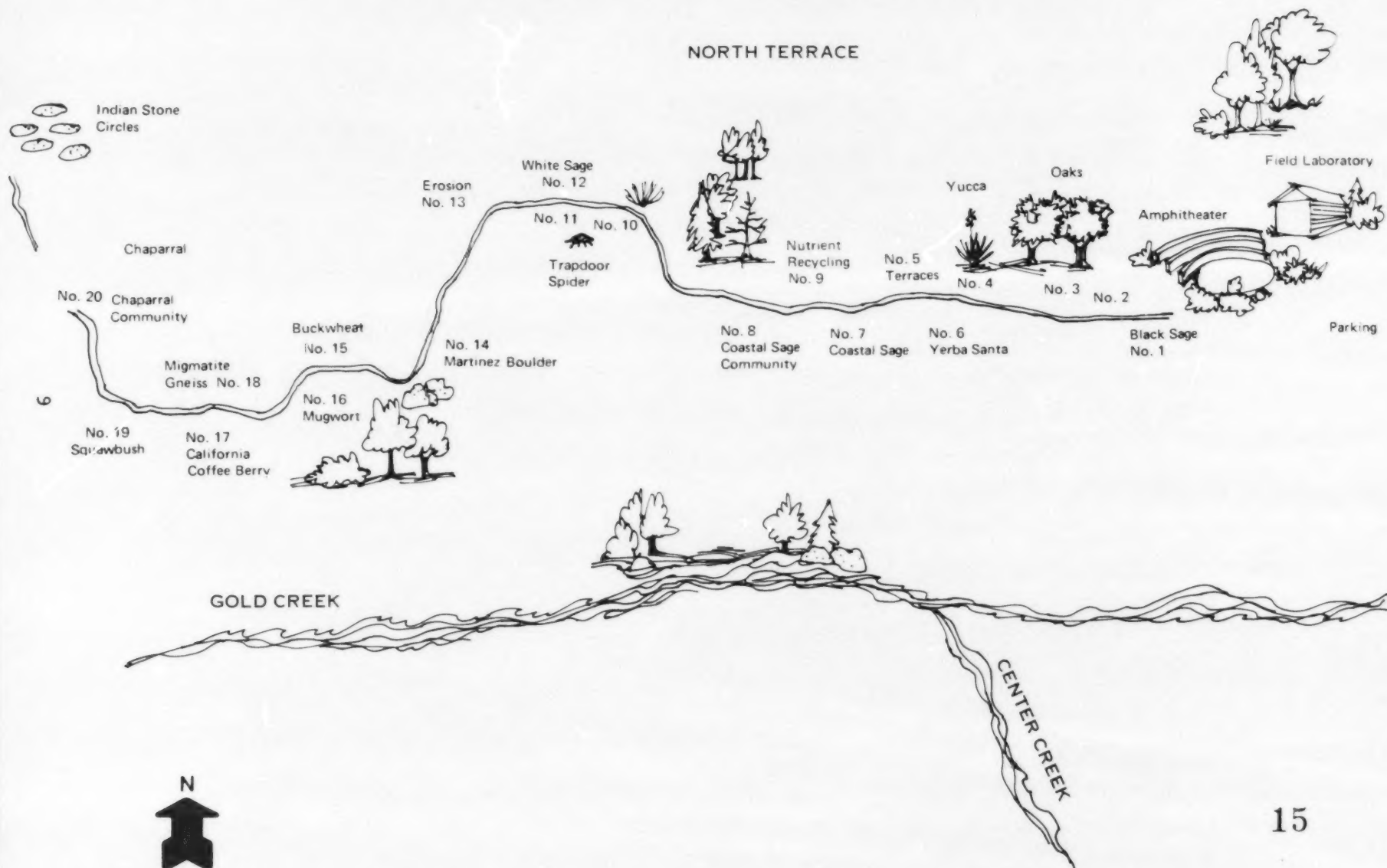


FIGURE 3 GREEN NATURE TRAIL



Adjacent to the oaks is a plant community common to much of Southern California and recognized by its stiff, shrub-like appearance: the chaparral. One of the most fascinating plants of this arid landscape is the yucca or "Our Lord's Candle." The long, stiff, pointed leaves radiate from a common base at



the soil line and after six or more years, a tall spike of white flowers emanates from the plant's center. Pollination of the flowers is dependent on a small, day-flying moth and the relationship is one of such mutual dependence that the two species would be unable to survive without each other.

Moving along the base of the slope, the observer will notice a flat terrace to the north. This stream-cut terrace represents the ancient alluvial floor of the Gold Creek Valley which has been uplifted, along with the rest of the San Gabriel Mountains through geologic time.

Plants in the current valley floor include Yerba Santa, a plant used by the Indians for a great variety of medicinal purposes. The soft, low brush here is Coastal Sagebrush, not a true sage but a member of the sunflower family.

The complete cycle of life is represented by both the germination of seedlings and the decay of a massive Coulter Pine, killed by fire. Students observe the recycling of nutrients from this tree as a result of the activity of wood-boring beetles, termites and fungi, with woodpeckers feeding on the wood-consuming insects.

The keen observer may find the lid to the burrow of the Trapdoor Spider and

with a thin knife blade, carefully open the hinged lid to reveal the presence of the resident spider. These spiders dig a burrow eight inches down into the soil and line the walls with stabilizing silk. Feeding at night on ground-dwelling insects, the spider will drag its prey into the burrow.



The striking silver leaves of the White Sage are in bold contrast to the dark green vegetation dominating the slopes. White Sage sporadically hybridizes with the dark green Black Sage to form a perfect intermediate.

Nearby grows the Hoary-leaved Ceanothus, a remarkable plant in that the seed will only germinate after it has been burned! Other chapparral plants, such as Chamise, will recover from fire through a process called stump sprouting or crown sprouting from the subterranean root.

Erosion effects may be seen along an abandoned roadbed descending from the north terrace and exposing the underlying Saugus Sandstone, a dominant rock type of the area. The second major rock type is called Martinez Conglomerate, a material deposited in an ancient ocean covering the Gold Creek area some 65 million years ago.

Proceeding further along the Green Trail, the visitor will see Buckwheat, a species with a distribution ranging from Baja California all the way to Monterey County. This plant is an important food for a wide variety of insects, birds and rodents.

In the damp areas associated with the canyon bottoms grows Mugwort, a relative of the Coastal Sage with purported anti-poison oak properties. Nearby grows California Coffee Berry, a small bush which at one time was cultivated as a substitute to commercial coffee. Indian baskets were constructed from the flexible branches of Squaw Bush and the seeds of this plant were used to prepare a drink. Squaw Bush may be confused with Poison Oak since it, too, has leaves in units of three.

The end of the Green Trail lies within a massive stand of Buckwheat and facing North the visitor may observe, in strong contrast, the chaparral-covered slopes. In the spring months, birds proclaim territories from conspicuous perches, through the production of elaborate, species-specific song.

Located on the top of the nearby terrace the student may see the Gold Creek archaeological site consisting of twelve interconnecting circles of stone. This type of site, well known from the desert side of the San Gabriel Mountains, is very rare on the coastal slopes. Perhaps someday archaeologists will determine the purpose of the stone circles.

V. IMPACT OF ENVIRONMENTAL FACTORS

Since becoming an instructional field laboratory, the Gold Creek Ecological Reserve has proven to be the site of dynamic events.

Earthquake

For sixty seconds during the morning of February 9, 1971, the San Fernando Valley region was struck by one of the most devastating earthquakes in California history. With a Richter magnitude of 6.4, this quake was California's third worst earthquake in terms of lives lost (exceeded by San Francisco, 1906, and Long Beach, 1933) and second worst in terms of property damage (exceeded by San Francisco). Damage to the San Fernando and Sylmar areas of Los Angeles County was severe due to the epicenter's location only nine miles to the north, combined with the fact that the San Gabriel Mountains were being thrust up on top of the valley plate. The maximum vertical uplift at any one site was approximately three feet.

Little Tujunga Canyon, the eastern boundary of the worst displacement, was affected with buckled roads and fences, and numerous landslides. Gold Creek, as a side canyon to Little Tujunga, was also damaged. The road and part of the stream was blocked off by a landslide in the northeast portion of the Reserve. The chimney of the old Watts Ranch house, located in the center of the property, was destroyed and the house was displaced several inches off its foundation. Later, the ranch house was declared unsafe for student use and was torn down.

Fire

As a result of receiving a California Environmental Protection Program Fund (personalized license plate fund) grant, the new field laboratory was completed in 1975. On November 24, 1975, a fire crossed from Big Tujunga Canyon to Little Tujunga Canyon and destroyed over ninety-five percent of the vegetation of

Gold Creek. The field laboratory was untouched, but most of the nature trail stakes were destroyed, as was some historical wooden drilling equipment on the south terrace.

What at first appeared to be a complete disaster to the instructional program developed into a unique opportunity for students and faculty to observe fire regeneration first hand. By May, 1976, the hills were covered with wildflowers and plants never before observed at the Reserve. The last fire at the site had been in 1918, and seed had been lying dormant through all the intervening years "waiting" to be burned! Most of the thick-barked oaks recovered and within days of the fire event, yuccas were observed pushing out new leaves. The first rains washed the ash into the soil, thus refertilizing it for the new generations of annuals. Clearing of the land by fire made it possible to survey completely the terraces and slopes for additional archaeological sites. None was found. All the trails had to be re-staked and numbered and new trail scripts were written with fire ecology included. Since the fire, photographic records have been made to document changes; field data recording the first appearance of certain birds and the first flowering of seedling bushes have been noted on permanent record cards.

Flood

Further alteration to the Reserve occurred on February 10, 1978, when the first of two storms, the severity of which occurs once every one hundred years, hit the Little Tujunga area. Little Tujunga Road, a main artery across the San Gabriel Mountains, became impassable in at least four locations due to road washouts. The United States Forest Service access road and the Gold Creek Road

were damaged by washouts, landslides and backwashes. Within the Reserve approximately 300 feet of roadbed was destroyed, damaging temporarily the normal instructional program. Numerous trees along the swollen stream were washed out or toppled and deep gullies formed. A few nature trail stations were washed



out by sudden, temporary side streams bisecting the trail. Again, the field laboratory building survived this new disaster without incident.

Students began using the Reserve again subsequent to the re-opening of Little Tujunga Canyon Road, first walking a mile in and later driving to the property boundary. By April a detour road was constructed around the primary washout on the property and students were able to drive all the way to the field laboratory building.

The effects of the flood were everywhere along the watercourse. Large granitic boulders were wedged into alder stumps eight feet above the streambed. The upstream sides of trees growing within the channel were pulverized by the downward rush of rock and debris to the point where all the living layer was destroyed on that side. The root systems of many of the trees were exposed as the rock and gravel were carried away and huge logs piled up against trees downstream. Once again, students had the opportunity to view first hand the effects of environmental stress on the landscape.

Seedling alder, cottonwood and willow soon began to appear as did the aquatic insects. As the water level dropped, it became apparent that the floor of the streambed was, in many places, now resting on Saugus Sandstone bedrock.

The removal of surface soils led to the discovery of a small obsidian bird point arrowhead in the parking area south of the building. This was the first artifact of its kind found since the establishment of the Ecological Reserve. The nearest obsidian site to Gold Creek is near Little Lake, California, approximately 110 miles to the north. The presence of an obsidian artifact reflects the existence of old Indian trade routes in the area.

Some of the pine trees killed by the fire and later felled by the flood have been used to build a footbridge and rustic amphitheater near the field laboratory building.

VI. SITE UTILIZATION

During the past seven years, approximately 6,370 students have visited Gold Creek. In addition, 100 instructors have spent 400 faculty hours at Gold Creek workshops, and over 700 LACCD employees and their guests have visited the site at the annual open house.



At the 1983 open house

Left to right:

Tom Stevens
Lou Hilleary
Don Misumi
Arthur Bronson



Left to right:

Fred Woodley
Helen Woodley
Laurel Woodley
Mildred Wissler

VII. THE GOLD CREEK COMMITTEE

The Gold Creek Committee, consisting of representatives from nine LACCD campuses and a broad range of disciplines, acts as an advisory group for the Reserve. Activities conducted at the site are the result of work by this faculty advisory Committee in maintaining Gold Creek as an ecological study site for use by students and faculty of the District.

Primary objectives of the Committee are to develop and use the property to improve the District's instructional program. Committee activities directly related to instruction include (1) conducting a site survey for biological and geological data, (2) developing reference specimen collections, field exercises and instructional displays, and (3) assisting instructors in the use of Gold Creek by providing orientation programs and demonstrations on the use of field equipment.

With a site as dynamic as Gold Creek, instructors have benefitted from in-house workshops sponsored by the Committee on topics such as fire ecology, hay fever plants, vegetation sampling techniques, poisonous animals, Indian uses of native California plants, and stream ecology. A traditional Spring event hosted by the Committee is the annual Gold Creek Open House for Los Angeles Community College District personnel and their families. Each year's activities include guided nature walks, exhibits of animals and plants, equipment demonstrations and a Committee-hosted lunch.

The following LACCD faculty members have served on the Gold Creek Committee:

City College: M.H. Davis, Mark Newton; East L.A. College: Frances Cramer; L.A. Harbor College: Beverly Shue, Arnold Small; L.A. Mission College: Carla Bowman, Marshall Smith; L.A. Pierce College: Barbara Hopper; L.A. Southwest College: Sue Verity, Laurel Woodley, Glenn Yoshida; L.A. Trade Technical College: Don Misumi, Mary Mundell, Xenia Wright; L.A. Valley College: Ron Bigelow, Eugenia DeWitt, Joe Frantz, George Hale, Bill Krauss, Mildred Wissler; West L.A. College: Liz Nuckolls.

VIII. LOOKING TOWARD THE FUTURE

Improvements to the site planned for 1983-84 if funds become available include grading and oiling the main access road leading to the Reserve, surveying the property, and rerouting the road within the Reserve to higher ground to eliminate the recurring problem of washouts due to flooding. Signs will be posted to identify the property as the Gold Creek Ecological Reserve of the Los Angeles Community College District.

Gold Creek is a valuable source of enrichment for the instructional programs offered by the Los Angeles Community Colleges. Its educational value will increase as the pressure of population growth reduces the amount of accessible natural land. The faculty and staff will continue to work together to preserve Gold Creek and to develop the area as an instructional resource.

